REMARKS

Claims 1-32 are pending in the present application. Claims 1,8,14,17,24 and 29 have been amended to place the application in condition for allowance. These claims as currently amended include the limitations of claim 1 of the co-pending PCT application PCT/US03/01380, which the Examiner in the IPER found to meet the criteria set out in PCT Article 33(2)-(3) over the prior art including Hayden et al (US6430349) and Ahmad et al. (US2003/0049003). Reconsideration of the claims and entry of the amendment after final is respectfully requested.

Claims 1-32 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Hayden et al (US6430349) in view of Ahmad et al. (US2003/0049003). Hayden teaches a *planar waveguide* laser, more specifically "a laser component that includes a glass substrate doped with a laser species and having one or more, preferably multiple, waveguides defined by channels within the substrate. (As used herein, a "channel with the substrate" is meant to broadly include any channel formed on or in the substrate, whether or not covered by another structure or layer of substrate.) Each substrate waveguide (or "channel") is defined within the substrate as a region of increased index of refraction relative to the substrate. The glass substrate is doped with a laser species which can be optically pumped ..." (col. 1, lines 56-66). Hayden further teaches that "In another preferred embodiment, improved ion exchange methods are used to create channels defining the waveguides in the glass substrate. Generally, a surface of the glass substrate is exposed to an ion-exchange solvent through a mask layer having one or more line apertures corresponding

to the channel or channels (for multiple waveguide embodiments) (Col. 4, l. 50-56).

A planar waveguide laser such as taught by Hayden is constructed using ion exchange to create a channel in the doped substrate. To facilitate this process the phosphate must have significant amounts of alkali and the substrate region around the channel is doped. The Examiner suggested that it would be obvious to provide Hayden's planar waveguide laser with a fiber cladding as taught by Ahmad. Applicant disagrees. First, it is not possible to form a fiber cladding around a planar waveguide structure. Second, the single-mode pump and laser emission are confined within the channel by the substrate so there is no reason to form a cladding. If a cladding were added to facilitate multi-mode pumping the device would be inoperable as most if not all of the pump would be absorbed by the doped substrate.

Claims 1, 14, 17, 24 and 29 as currently amended recite a *fiber* laser comprising a section of fiber including a cladding formed of a phosphate glass and a core formed of a similar phosphate glass and co-doped with 0.5-5.0 wt. % Er_2O_3 and 0.5-30 Yb_2O_3. Hayden teaches a planar waveguide laser. Furthermore, the ion exchange process used to construct the planar waveguide laser is fundamentally incompatible with manufacturing the claimed fiber laser. Therefore, Hayden in view of Ahmad does not teach nor suggest the claimed fiber laser. As such, claims 1, 14, 17, 24 and 29 and their dependent claims are patentably distinct over Hayden in view of Ahmad and the rejection is respectfully traversed.

Conclusion

It is respectfully urged that the subject application is patentable over the cited references and is now in condition for allowance.

The Examiner is invited to call the undersigned at the below listed telephone number if, in the opinion of the Examiner, such a telephone conference would expedite or aid the prosecution and examination of this application.

Respectfully submitted,

Eric A. Gifford
Reg. No. 33,501
520 760-1754 Phone

Date: July 14, 2004 ATTORNEY FOR APPLICANTS